

IN THE CLAIMS:

Please amend Claims 1-4, and 6-10 as follows.

1. (Currently Amended) An apparatus for embedding a digital watermark in a document image, comprising:

outer shape extraction means for extracting outer shapes, which include a first outer shape in a first line, a second outer shape in a second line different from the first line, a third outer shape in a ~~third~~the first line and a fourth outer shape in a ~~fourth~~third line different from the first line, of characters in the document image; and

control means for controlling at least one of the outer shapes so that a parameter concerned with a distance between the first and the second outer shapes and a parameter concerned with a distance between the third and the fourth outer shapes are ~~to be~~ different from each other in correspondence with digital watermark information to be embedded,

wherein each of the parameters is concerned with the distance calculated using left edges or right edges of each outer shape.

2. (Currently Amended) The apparatus according to claim 1, wherein said control means changes the position of at least one of ~~positions of~~ the first to fourth outer shapes.

3. (Currently Amended) The apparatus according to claim 1, wherein said control means changes the size of at least one of ~~sizes of~~ the first to fourth outer shapes.

4. (Currently Amended) The apparatus according to claim 1, wherein the second and fourth outer shapes are outer shapes at an identical column position.

5. (Original) The apparatus according to claim 4, wherein a set of the first and second outer shapes is spaced a distance corresponding to a predetermined number of outer shapes from a set of the third and fourth outer shapes.

6. (Currently Amended) An apparatus for extracting data embedded in a document image, comprising:

outer shape extraction means for extracting outer shapes, which include a first outer shape in a first line, a second outer shape in a second line different from the first line, a third outer shape in a ~~third~~the first line and a fourth outer shape in a ~~fourth~~third line different from the first line, of characters in the document image; and

extraction means for comparing a parameter concerned with a distance between the first and the second outer shapes with a parameter concerned with a distance between the third and the fourth outer shapes, and extracting data corresponding to a comparison result of the parameters as data embedded in the document image,

wherein each of the parameters is concerned with the distance calculated using left edges or right edges of each outer shape.

7. (Currently Amended) A method for embedding a digital watermark in a document image, comprising:

an outer shape extraction step of extracting outer shapes, which include a first outer shape in a first line, a second outer shape in a second line different from the first line, a third outer shape in a ~~third~~the first line and a fourth outer shape in a ~~fourth~~third line different from the first line, of characters in the document image; and

a control step of controlling at least one of the outer shapes so that a parameter concerned with a distance between the first and the second outer shapes and a parameter concerned with a distance between the third and the fourth outer shapes are ~~to be different~~ from each other in correspondence with digital watermark information to be embedded,

wherein each of the parameters is concerned with the distance calculated using left edges or right edges of each outer shape.

8. (Currently Amended) A method for extracting data embedded in a document image, comprising:

an outer shape extraction step of extracting outer shapes, which include a first outer shape in a first line, a second outer shape in a second line different from the first line, a third outer shape in ~~a third~~the first line and a fourth outer shape in a ~~fourth~~third line different from the first line, of characters in the document image; and

an extraction step of comparing a parameter concerned with a distance between the first and the second outer shapes with a parameter concerned with a distance between the third and the fourth outer shapes, and extracting data corresponding to a comparison result of the parameters as data embedded in the document image,

wherein each of the parameters is concerned with the distance calculated using left edges or right edges of each outer shape.

9. (Currently Amended) A program embodied in a computer-readable medium, for making a computer execute a digital watermark embedding method of claim 7.

10. (Currently Amended) A program embodied in a computer-readable medium for making a computer execute a digital watermark extraction method of claim 8.

11. (Original) A computer readable storage medium storing a program of claim 9.

12. (Original) A computer readable storage medium storing a program of  
claim 10.